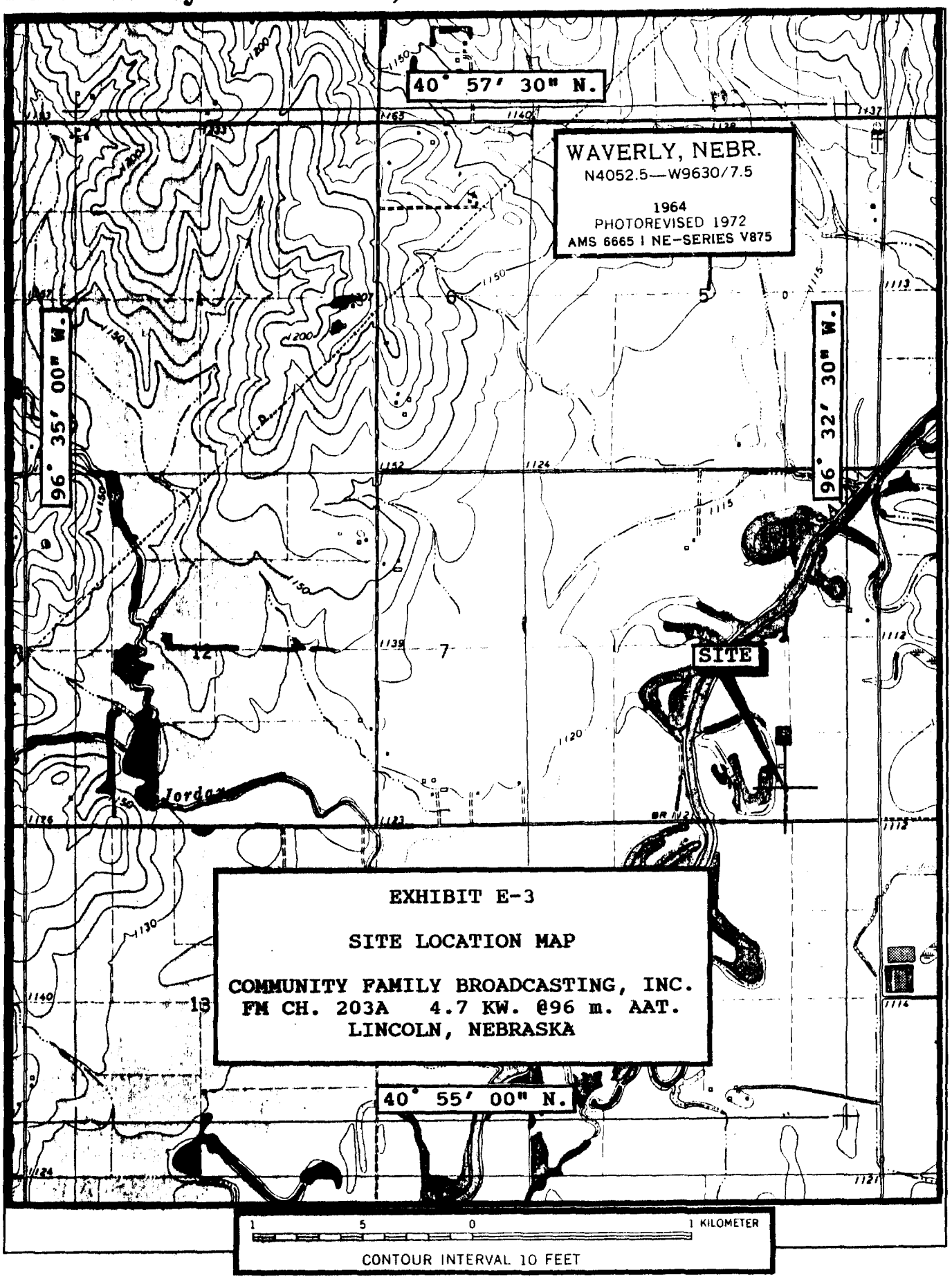
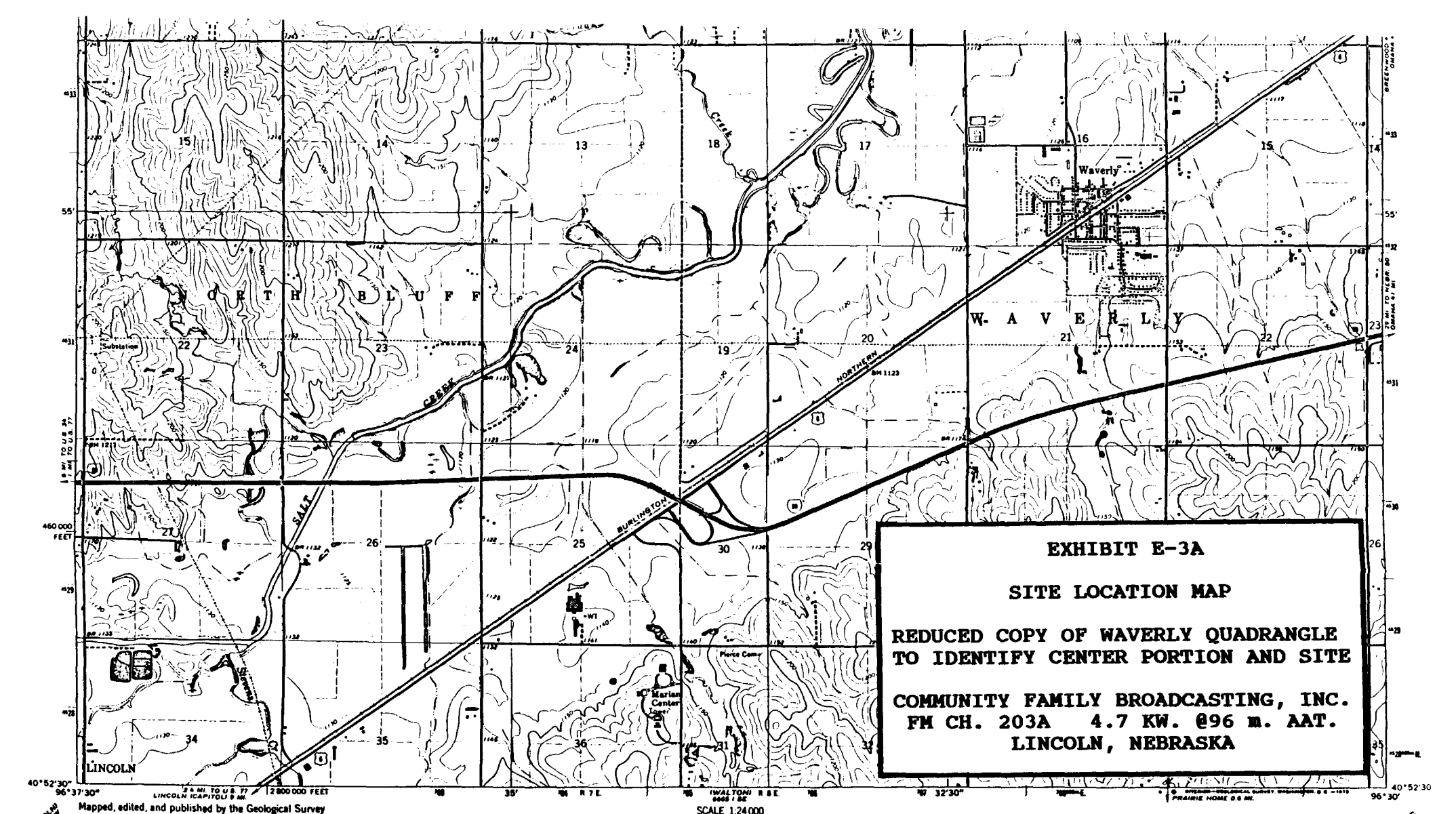

40° 57′ 30" N.
WAVERLY, NEBR.
N4052.5—W9630/7.5
1964
PHOTOREVISED 1972
AMS 6665 I NE-SERIES V875
96° 35′ 00" W.
96° 32′ 30" W.
SITE
Jordan
40° 55′ 00" N.
EXHIBIT E-3
SITE LOCATION MAP
COMMUNITY FAMILY BROADCASTING, INC.
FM CH. 203A 4.7 KW. @96 m. AAT.
LINCOLN, NEBRASKA
1 5 0 1 KILOMETER
CONTOUR INTERVAL 10 FEET




# EXHIBIT E-3A

## SITE LOCATION MAP

**REDUCED COPY OF WAVERLY QUADRANGLE TO IDENTIFY CENTER PORTION AND SITE**

**COMMUNITY FAMILY BROADCASTING, INC.**
**FM CH. 203A 4.7 KW. @96 m. AAT.**
**LINCOLN, NEBRASKA**

Mapped, edited, and published by the Geological Survey

Control by USGS and USC&GS

Topography by photogrammetric methods from aerial photographs taken 1961. Field checked 1964

Polyconic projection. 1927 North American datum
10,000-foot grid based on Nebraska coordinate system, south zone
1000-meter Universal Transverse Mercator grid ticks, zone 14, shown in blue

Fine red dashed lines indicate selected fence and field lines where generally visible on aerial photographs. This information is unchecked

Revisions shown in purple compiled from aerial photographs taken 1972. This information not field checked

UTM GRID AND 1972 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

SCALE 1:24000

CONTOUR INTERVAL 10 FEET
DOTTED LINES REPRESENT 5-FOOT CONTOURS
DATUM IS MEAN SEA LEVEL

ROAD CLASSIFICATION

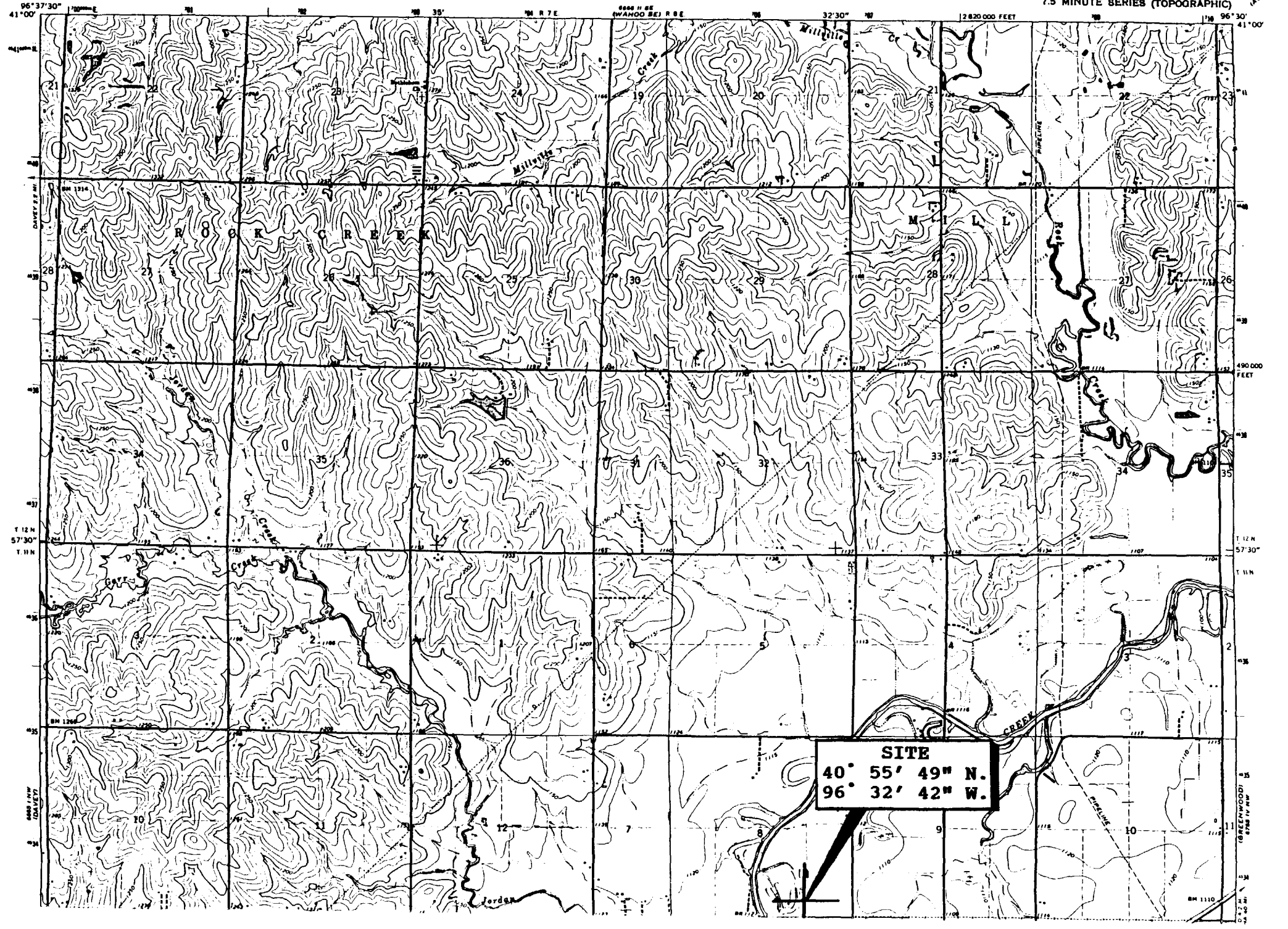
Heavy-duty ——— Light-duty ———
Unimproved dirt - - - - - -
Interstate Route U.S. Route

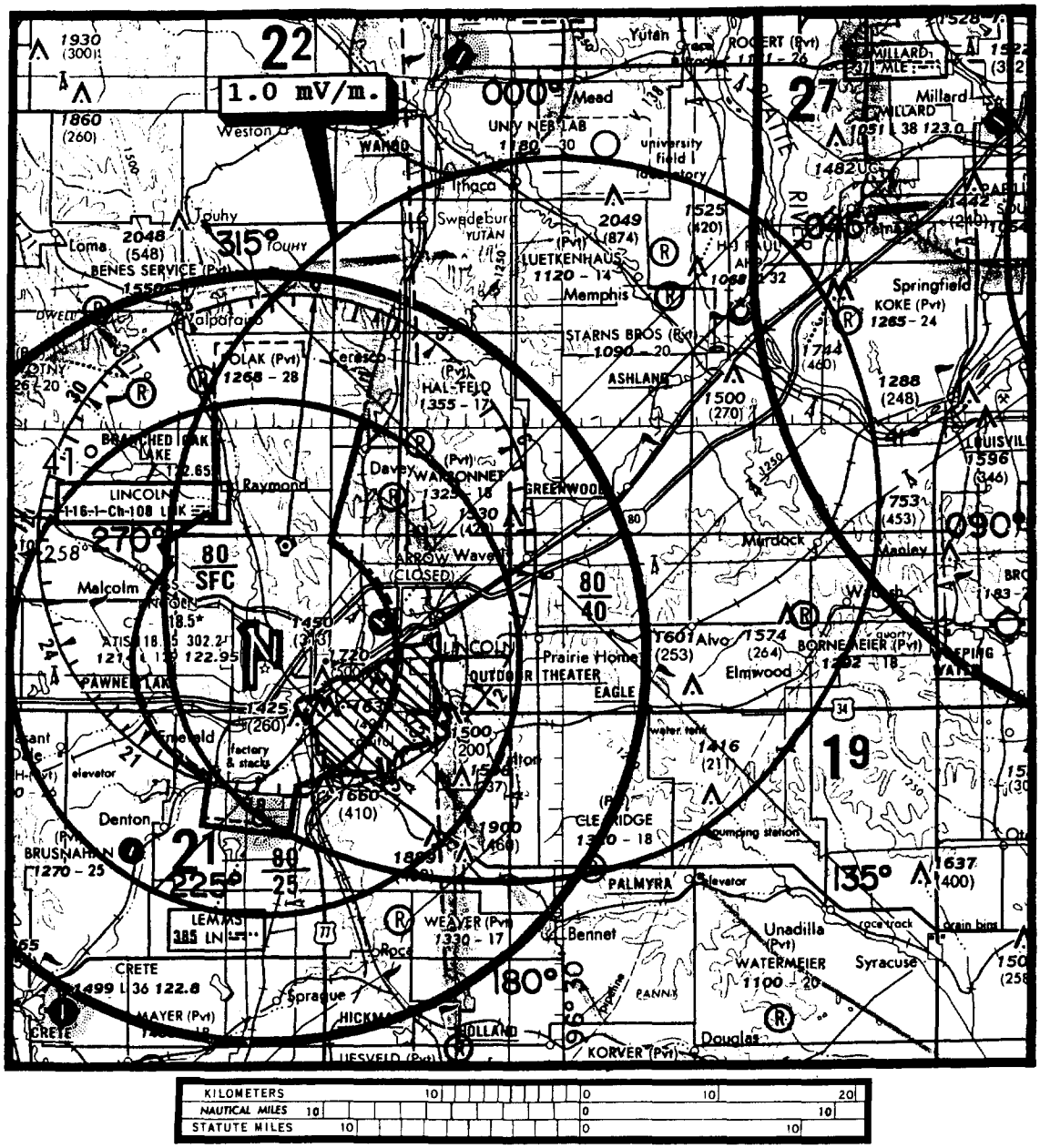
NEBRASKA
QUADRANGLE LOCATION

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U.S. GEOLOGICAL SURVEY, DENVER, COLORADO 80225, OR WASHINGTON, D.C. 20242
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

**WAVERLY, NEBR.**
N4052.5—W9630/7.5

1964
PHOTOREVISED 1972
AMS 6668 I NE—SERIES V878


UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WAVERLY QUADRANGLE
NEBRASKA–LANCASTER CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)
ROCK CREEK
MILL
SITE
40° 55′ 49″ N.
96° 32′ 42″ W.
Jordan
PIPELINE




**Map Source:**
Omaha Sectional
Aeronautical Chart.

**EXHIBIT E-4**

**PROPOSED SERVICE CONTOUR**

**COMMUNITY FAMILY BROADCASTING, INC.**
**FM. CH. 203A 4.7 KW. @96 m. AAT.**
**LINCOLN, NEBRASKA**

## EXHIBIT E-5

## ALLOCATION STUDY

The maximum power for the proposed facility is base solely on interference to television channel six. By limiting the power to avoid such interference, no existing or proposed FM service contours are of significance.

The nearest interfering or protected contours are those for a construction permit for KPQB in Omaha on Ch. 201. The 1.0 mV/m. and 10 mV/m. contours of the two stations clear each other by over 25 km. Therefore, the only significant limitation on radiation from the proposed facility is due to the channel six requirements.

250 KILOMETER RADIUS SEARCH FROM A LOCATION AT 40°-55'-49" 96°-32'-42"
FOR CHANNELS 201 TO 207
SEARCHING NE, IA, KS, MO, SD

| CALL | STATUS | CITY | CHANNEL | POWER | HAAT | DISTANCE | BEARING | STATE |
|---|---|---|---|---|---|---|---|---|
| CHANNEL 201 -------- | | | | | | | | |
| KCNT | LIC | Hastings | 201A | 2.30 | 55 | 155.41 | 255.6 | NE |
| KPQB | CP | Omaha | 201A | 1.10 | 119 | 60.90 | 45.8 | NE |
| KJTY | LIC | Topeka | 201C2 | 50.00 | 130 | 207.41 | 158.7 | KS |
| CHANNEL 202 -------- | | | | | | | | |
| KMSC | LIC | Sioux City | 202D | 0.01 | 0 | 172.20 | 5.1 | IA |
| K202BP | LIC | Bellaire, etc. | 202D | 0.08 | 0 | 219.55 | 235.2 | KS |
| KVCO | LIC | Concordia | 202A | 0.13 | 23 | 179.81 | 211.8 | KS |
| CHANNEL 203 -------- | | | | | | | | |
| NEW | APP | Lincoln | 203A | 5.00 | 96 | 0.00 | 180.0 | NE |
| KDCR | LIC | Sioux Center | 203C1 | 100.00 | 91 | 241.21 | 7.5 | IA |
| NEW-T | APP | Salina | 203D | 0.09 | 0 | 239.12 | 201.9 | KS |
| CHANNEL 204 -------- | | | | | | | | |
| KWDM | APP | West Des Moines | 204A | 0.10 | 52 | 244.49 | 72.6 | IA |
| NEW-T | APP | Manhattan | 204D | 0.08 | 0 | 189.33 | 181.9 | KS |
| CHANNEL 205 -------- | | | | | | | | |
| KWDM | LIC | West Des Moines | 205D | 0.01 | 0 | 244.49 | 72.6 | IA |
| CHANNEL 206 -------- | | | | | | | | |
| NEW | CP | Hastings | 206C1 | 68.00 | 329 | 131.02 | 262.3 | NE |
| CHANNEL 207 -------- | | | | | | | | |
| KZUM | LIC | Lincoln | 207A | 1.50 | 31 | 18.82 | 226.2 | NE |
| KXNE-FM | CP | Norfolk | 207C1 | 45.00 | 300 | 157.46 | 337.2 | NE |

END OF SEARCH

EXHIBIT E-6

A search has been conducted within a thirty mile radius of the proposed facility on channels 256 and 257. It has been determined that no stations are within that distance from the proposed facility.

As the maximum required IF spacing distance from a Class A station is 29.0 kilometers, it is apparent that no IF interference would be caused by the proposed station.

30 KILOMETER RADIUS SEARCH FROM A LOCATION AT 40°-55'-49" 96°-32'-42"
FOR CHANNELS 256 TO 257
SEARCHING NE

| CALL | STATUS | CITY | CHANNEL | POWER | HAAT | DISTANCE | BEARING | STATE |
|---|---|---|---|---|---|---|---|---|

CHANNEL 256 --------

CHANNEL 257 --------

END OF SEARCH

# CHANNEL SIX INTERFERENCE STUDY

A study of interference to television channel six has been performed in accordance with the requirements of Sec. 73.525 of the Commission's Rules and Regulations. The channel six station involved is WOWT(TV) in Omaha, Nebraska.

WOWT is shown in the Commission's database to be located at 41° 18' 40" N. and 96° 01' 37" W. The facility operates with an effective radiated power of 100 KW. with the center of radiation at 761 m. AMSL. The interference study was performed in accordance with Sec. 73.525(e) by establishing contours for WOWT, evaluating the interfering signal based on Figure 1 of Sec. 73.599 and determining the locus of points where interference would start to occur.

The proposed facility will utilize vertical polarization only. The power to be used was calculated in accordance with the provisions of Sec. 73.525(e)(4). To accomplish this calculation, the nearest point of the city limits of Lincoln to the proposed site was determined. That point is shown on the attached topographic map. It was determined that the point was at 40° 52' 42" N., 96° 37' 28" W. The distance and bearing from the proposed site and from WOWT was then determined:

From the proposed site: Dist. = 8.84 km. @229.16° T.

From the WOWT location: Dist. = 69.50 km. @226.33° T.

The exact terrain elevation was then determined for both facilities utilizing the NGDC 30 sec. terrain database:

Average terrain for Ch. 6 = 341.2 m. AMSL

Average terrain for Prop. = 344.2 m. AMSL

Ch. 6 Height AAT (226.33°)= 419.8 m.

Prop. Height AAT (229.16°)= 112.9 m.

Based on the Commission's F(50,50) curves, the WOWT field strength at the nearest point on the Lincoln city limits was determined to be 64.9 dBu. The U/D ratio from Fig. 1 = -0.4 dB. resulting in a maximum FM field strength of 64.5 dBu. For the proposed height above average terrain, the FM station is limited to an effective radiated power of -9.28 dBk. or 118 watts horizontally polarized.

It is extremely significant to note that this power level will avoid any interference to WOWT within the city limits of Lincoln. As no interference occurs within the city limits of a city of 50,000 persons or more, Sec. 73.525(4)(i) permits a vertically polarized signal of 40 times the maximum horizontally polarized value. Therefore, it is proposed to operate with a vertically polarized signal of 4.7 kw. Any power greater than 4.72 kw. would cause interference inside the city limits of Lincoln which, in turn, would cause the population within the interference area to be greater than 3000.

The population was determined from the latest published census of the population (1980) using the published values for each precinct. The method utilized was in accordance with Sec. 73.525(e)(1). The population within the interference area for the proposed facility would be:

Lancaster County:

| | |
|---|---|
| 0.3 Mill Pct. | 87 |
| 0.85 Waverly Pct. + city | 2044 |
| 0.6 North Bluff - city | 286 |
| 0.2 Rock Creek Pct. - city | 79 |
| Total population | 2496 |

As this value is well below the limit of 3000, no prohibited interference will occur to WOWT(TV).

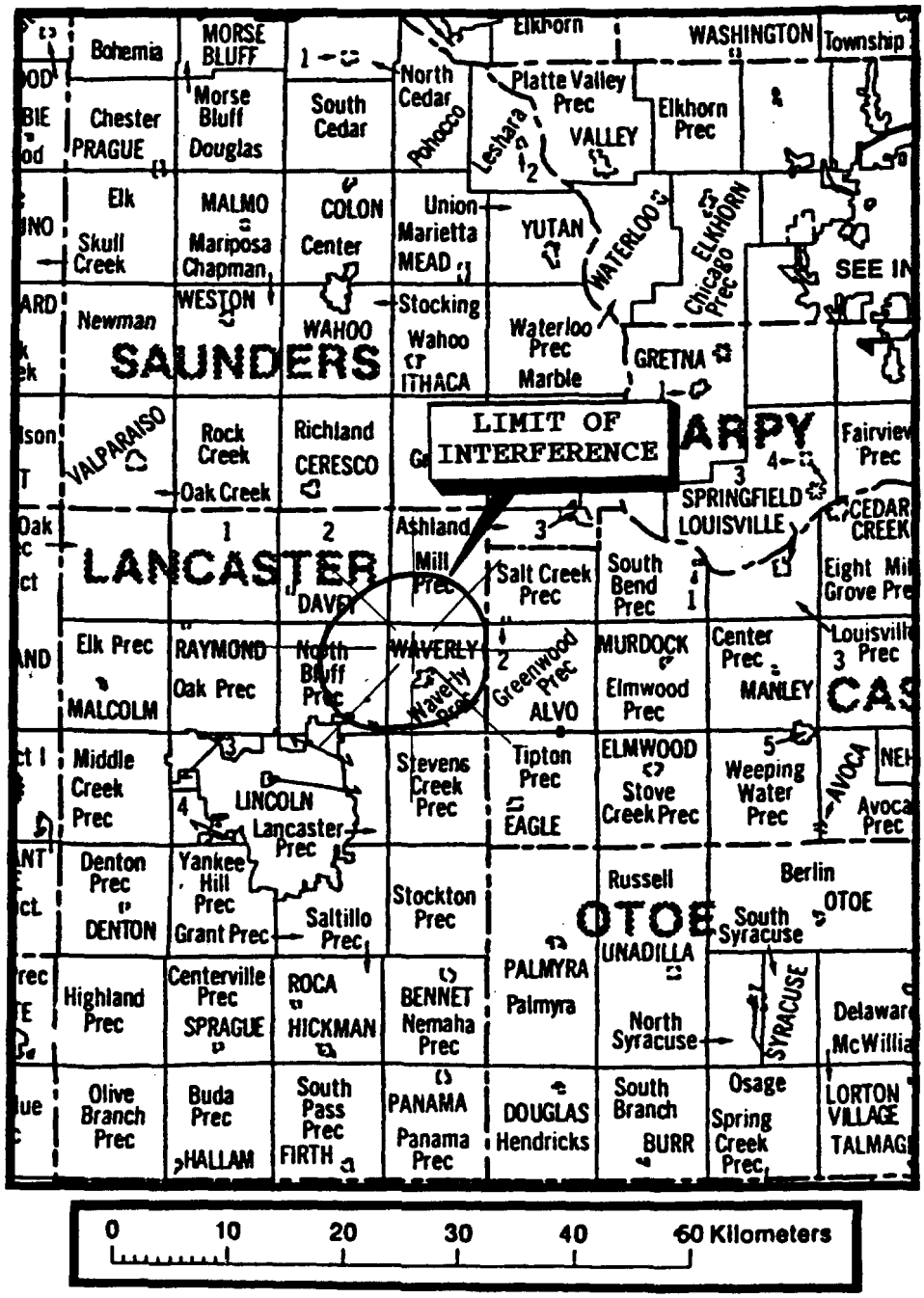



EXHIBIT E-7

CHANNEL SIX INTERFERENCE STUDY

COMMUNITY FAMILY BROADCASTING, INC.
FM CH. 203A 4.7 KW. @96 m. AAT.
LINCOLN, NEBRASKA

# D.L. Markley & Associates, Inc.

**Consulting Engineers**

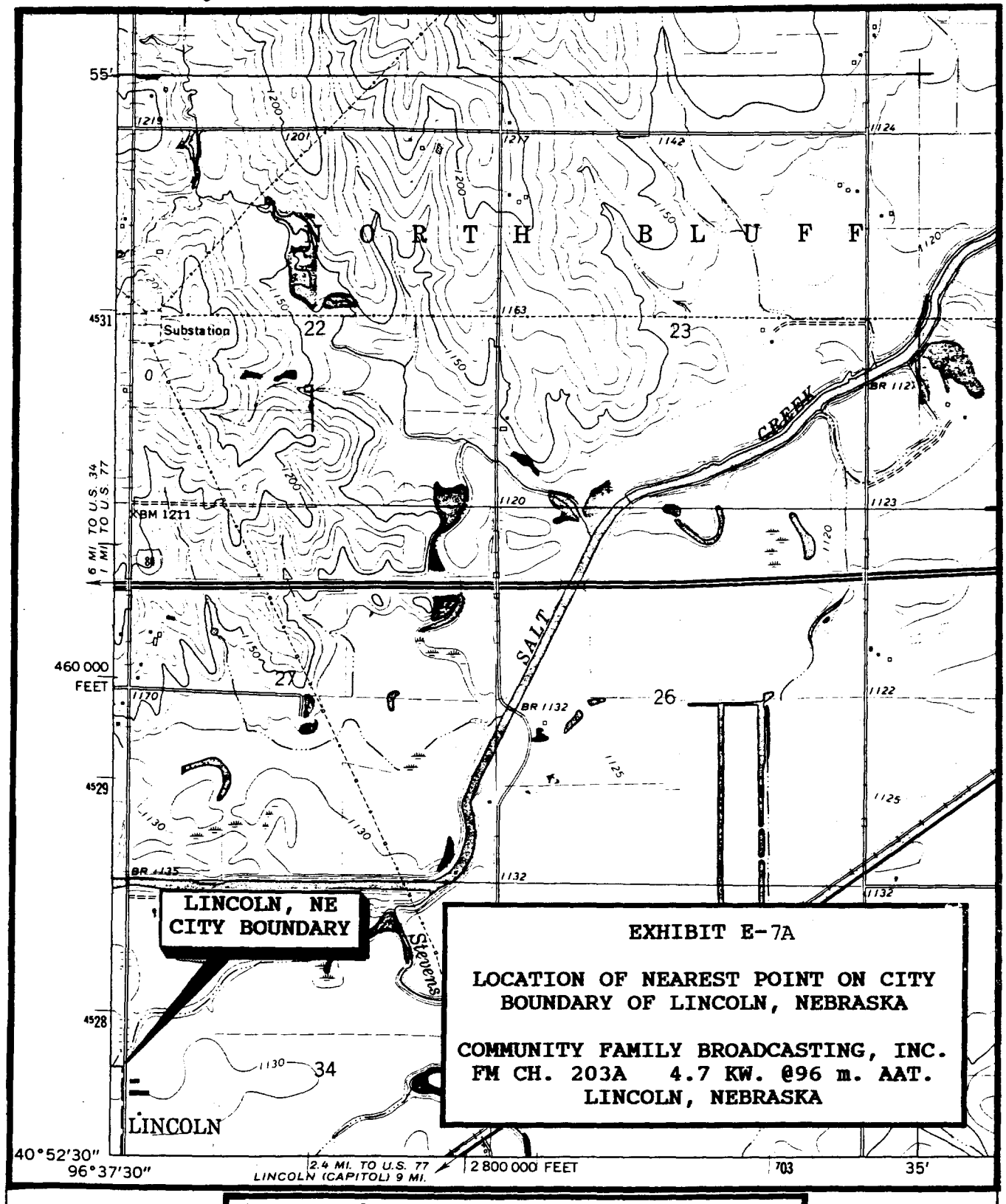



**EXHIBIT E-7A**

**LOCATION OF NEAREST POINT ON CITY BOUNDARY OF LINCOLN, NEBRASKA**

**COMMUNITY FAMILY BROADCASTING, INC.**
**FM CH. 203A 4.7 KW. @96 m. AAT.**
**LINCOLN, NEBRASKA**

Client: COMMUNITY ERP= 4.7 KW. ( 6.721 dBk.)

| AZIMUTH DEG. T. | HAAT m. | DISTANCE TO CONTOURS IN KM.(MI) 70 dBu | 60 dBu |
|---|---|---|---|
| 0.0 | 101.6 | 15.3( 9.5) | 27.1( 16.8) |
| 45.0 | 118.3 | 16.6( 10.3) | 28.9( 18.0) |
| 90.0 | 99.1 | 15.1( 9.4) | 26.8( 16.7) |
| 135.0 | 90.7 | 14.6( 9.1) | 25.7( 16.0) |
| 180.0 | 84.9 | 14.2( 8.8) | 24.9( 15.5) |
| 225.0 | 110.4 | 16.0( 9.9) | 28.2( 17.5) |
| 270.0 | 84.6 | 14.2( 8.8) | 24.9( 15.5) |
| 315.0 | 79.0 | 13.7( 8.5) | 24.1( 15.0) |